DILLWYNIA SIEBERI DISTINGUISHED FROM *D. JUNIPERINA* (FABACEAE: MIRBELIEAE) IN SOUTH-EASTERN AUSTRALIA

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ABSTRACT

Albrecht, David E. and Crisp, Michael D. *Dillwynia sieberi* distinguished from *D. juniperina* (Fabaceae: Mirbelieae) in south-eastern Australia. ***Muelleria* 8(1): 47–50 (1993).** — Two species which hitherto have been confused under the name *Dillwynia juniperina* Lodd. are distinguished and described. The name *D. sieberi* Steudel is reinstated here for a species which occurs in Queensland, New South Wales and Victoria, and a lectotype chosen for the name. *D. juniperina sensu stricto* occurs in Victoria and New South Wales. The possible occurrence of both species in Tasmania is discussed.

INTRODUCTION

During the course of servicing a routine identification enquiry at the National Herbarium of Victoria it became apparent that two species have been confused under the name *Dillwynia juniperina* Lodd. The two species concerned are readily distinguished by the mode of leaf attachment and no intermediates have been observed. We have applied the name *D. juniperina sensu stricto* to the species that has a scattered distribution in Victoria and occurs in a few sites in southern New South Wales, and have reinstated the name *D. sieberi* Steudel for the species that occurs in south-eastern Queensland, New South Wales and a restricted area in eastern Victoria. A key to distinguish *D. sieberi* from *D. juniperina* is given below.

Dillwynia juniperina and *D. sieberi* both belong to a group within the genus (*D.* sect. *Xeropetalum* R. Br. *ex* Sims) which is easily distinguished by its abruptly narrowed (as opposed to tapered) calyx base and petals remaining persistent in fruit. *Dillwynia juniperina* and *D. sieberi* differ from the other south-eastern Australian members of this section *viz. D. uncinata* (Turcz.) J. Black, *D. cinerascens* R. Br., *D. acicularis* Sieber *ex* DC. and an unnamed species from the Gibraltar Range in northern New South Wales in having truly pungent leaves.

It is curious that there are historical records of both species from Tasmania, yet contemporary evidence for either occurrence is lacking. Loddiges (1820) states that *D. juniperina* is a native of 'van Diemen's Island', although he does not give a source for this information. In the Vienna herbarium (W), there is a specimen of *D. sieberi* collected by Bauer 'ex insula van Diemen', which is annotated by Bentham, and presumably used by him in part to describe *D. juniperina* Sieber *ex* Benth. (see synonymy of *D. sieberi* below). We have seen no other report of any pungent-leaved taxon of *Dillwynia* from Tasmania. The Student's Flora of Tasmania (Curtis 1975) describes none. Jasmyn Lynch (personal communication), who has recently made an extensive survey of Fabaceae occurring in Tasmania, is unaware of any such species occurring there.

TAXONOMY

KEY TO DISTINGUISH DILLWYNIA SIEBERI FROM D. JUNIPERINA

1 Most leaves widely spreading or declinate, sessile; new growth with an indumentum of short appressed and longer diverging trichomes ..... 1. **D. juniperina**

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1* Most leaves ascending to widely spreading, rarely declinate, with a short yellowish petiole 0.4–1.2 mm long; new growth with an indumentum of short appressed trichomes or rarely also with longer diverging trichomes .....2. **D. sieberi**

1. Dillwynia juniperina Lodd., Bot. Cab. 5: t. 401 (1820). TYPE: 'This plant is a native of Van Diemen's Island, whence we received seeds of it in the year 1818.' (specimen unknown; **lecto, here chosen**: the plate).

Spreading shrub to 2 m tall with short appressed and frequently also longer diverging peltate trichomes on the branchlets, raceme axis, pedicels, bracts, bracteoles, calyx and gynoecium. *Leaves* rigid, sessile, glabrescent, mostly widely spreading or declinate, linear-subulate, trigonous with a longitudinal adaxial groove, 6–15 mm long, 0.6–0.9 mm wide, apex with a pungent point 0.7–1.2 mm long; *stipules* minute, inconspicuous. *Racemes* terminating the main axes or short lateral branches, or in the upper axils, to 4.5 cm long. *Pedicels* to *c.* 3 mm long; *bracts* ovate, often minutely pungent, mostly 1–1.5 mm long but the lowermost sometimes leaf-like; bracteoles ovate, ± minutely pungent, 0.6–1 mm long, attached on the pedicel just below the base of the calyx tube. *Calyx* 3–4.5 mm long, abruptly narrowed at the base; lower lobes much shorter than the tube; upper lobes united into a broad emarginate lip. *Corolla*: yellow with reddish-brown markings; *standard* transverse-elliptic or depressed ovate, emarginate, 5.5–8 mm long (including 1.5–2 mm claw), 6.5–10 mm wide; *wings* obovate, auriculate, 5–8 mm long (including 1.5–2.5 mm claw), 1.2–2.5 mm wide; *keel* longitudinally half-ovate, auriculate, 4–5.5 mm long (including 1.5–2.5 mm claw), 1.5–2 mm wide. *Stamens* with filaments 2–4.6 mm long; *anthers* versatile, 0.3–0.5 mm long. *Gynoecium* 4–5 mm long including 0.3–0.4 mm stipe and 1.5–2.2 mm abruptly hooked style, glabrous towards the stipe base and style apex; *stigma* capitate; *ovules* 2. *Pod* ovoid, turgid, c. 5–6 mm long, surrounded by the persistent remains of the petals; *seeds* unknown.

Flowering period: August to November. *Fruiting period*: Immature pods collected from November to January.

SELECTED SPECIMENS (38 specimens examined)

New South Wales — South Western Slopes: Benambre State Forest, 15 km S of Culcairn, 35°45′S, 147°05′E, 4 Oct. 1978, *J.G. Bricknell 80* (NSW); Central Tablelands: 4 miles E of Abercrombie Caves near Barragan's Mtn, 33°55′S, 149°22′E, 3 Oct. 1965, *B.G. Briggs s.n.* (NSW).

Victoria — Riverina: Boweya Flora & Fauna Reserve, 12 Sep. 1985, *A.C. Beauglehole 80363* (MEL, CBG, NSW); Midlands: Warby Range, c. 5 km direct NW of Mt Warby, 36°19′S, 146°11′E, 11 Oct. 1986, *M.G. Corrick 9958* (MEL, NSW); Eastern Highlands: Rose Valley-Cheshunt Road, near Cheshunt, 36°51′S, 146°31′E, 10 Oct. 1990, *T.J. Entwisle 1765 & S. Bodsworth* (MEL, PERTH, CBG); East Gippsland: Timbarra River Natural Feature Zone, 14 Sep. 1984, *A.C. Beauglehole 77006* (MEL, CBG).

DISTRIBUTION

New South Wales: Central Tablelands, Central Western Slopes and South Western Slopes botanical subdivisions. Victoria: Midlands, Eastern Highlands and East Gippsland natural regions (Conn 1993†). *D. juniperina* appears to be quite rare in New South Wales, where it is known only from near Culcairn, Trunkey and Bowan Park. In Victoria it has a disjunct distribution pattern, occurring in the Warby and Strathbogie Ranges, near Tallarook, Bruthen, Whitfield and Alexandra, and in the catchments of the Timbarra and Snowy Rivers.

HABITAT

D. juniperina grows in dry sclerophyll forests and woodlands typically dominated by Box or Ironbark-type *Eucalyptus* species. Plants are found on hillsides or

† 1:1 000 000 Colour map printed by National Herbarium of Victoria.

ridges where the soil is usually shallow and often skeletal. Most populations occur in areas where the underlying parent rock is granite.

Discussion

No type specimens of Loddiges are known. However, the published plate appears to be diagnostic for the species which has spreading to deflexed, sessile leaves, and accordingly we have applied the name to this taxon. In the absence of a specimen, we have chosen the plate as the lectotype.

2. Dillwynia sieberi Steudel, Nomencl. Bot. ed. 2, 1: 509 (1840); — *Dillwynia cinerascens auct. non* R. Br.: DC., Prodr. 2: 109 (Nov. 1825); — *Dillwynia juniperina* Sieber *ex* DC., Prodr. 2: 109 (Nov. 1825), *nom. inval., pro syn.*; — *Dillwynia juniperina* Sieber *ex* Benth., Comm. Legum. Gen. : 15 (1837), nom. illeg., non Lodd. Type: **Lecto, here chosen**: *Sieber 411* [G-DC, microfiche seen; **isolecto**: BM (2 sheets), G, K (2 sheets), W (3 sheets), MEL (1 sheet)].

Erect or spreading shrub to 2 m tall with short appressed peltate trichomes and occasionally also similar but longer diverging trichomes on the branchlets, raceme axis, pedicels, bracts, bracteoles, calyx and gynoecium. *Leaves* rigid, glabrescent, mostly ascending to widely spreading or rarely some declinate, linear, trigonous with a longitudinal adaxial groove, 7–20 mm long, 0.4–0.8 mm wide, apex with a pungent point 0.5–1.5 mm long; *petioles* yellowish, 0.4–1.2 mm long; *stipules* minute, inconspicuous. *Racemes* terminating the main axes or short lateral branches, or in the upper axils, to 2.5 cm long. *Pedicels* to c. 3 mm long; *bracts* ovate, often minutely pungent, most 1–1.5 mm long but the lowermost sometimes leaf-like; *bracteoles* ovate, ± minutely pungent, 0.7–1 mm long, attached on the pedicel just below the base of the calyx tube. *Calyx* 3–5 mm long, abruptly narrowed at the base; lower lobes occasionally minutely pungent, much shorter than the tube; upper lobes united into a broad entire or emarginate lip. *Corolla*: yellow to yellow-orange with reddish-brown markings; *standard* transverse-elliptic or depressed ovate, emarginate, 5.5–9 mm long (including 1.5–2 mm claw), 7–12.5 mm wide; *wings* obovate, auriculate, 5–9.2 mm long (including 1.5–2.5 mm claw), 2–3.3 mm wide; *keel* longitudinally half-ovate, auriculate, 4.5–6 mm long (including 1.7–2 mm claw), 1.8–2.3 mm wide. *Stamens* with filaments 2.5–4.5 mm long; *anthers* versatile, 0.4–0.5 mm long. *Gynoecium* 3.5–5.2 mm long including 0.3–0.5 mm stipe and 1.2–2.2 mm abruptly hooked style, glabrous towards the stipe base and style apex; *stigma* capitate; *ovules* 2. *Pod* ovoid, turgid, c. 5–6 mm long, surrounded by the persistent remains of the petals; *seeds* 3–3.5 mm long, c. 2 mm wide, dark brown-black; *testa* smooth; *aril* present.

Flowering period: April to November. *Fruiting period*: Mature pods collected in December.

Selected Specimens (*c.* 150 examined)

Queensland — Darling Downs district: Racecourse Creek, 8 km NE of Wallangara, 28°52′S, 151°58′E, 25 Sep. 1973, *I.R. Telford 3170* (CBG, K, L, A, BISH); Moreton district: Falls Creek, 4 km NW of W Haldon, 27°45′S, 152°04′E, 2 Oct. 1988, *P.I. Forster 4747 & L.H. Bird* (BRI, CBG, MEL).

New South Wales — Central Coast: On the N side of the Old Pitt Town Road, 1 km from the Saunders Road intersection towards Scheyville Road, 33°37′S, 150°54′E, 19 Nov. 1986, *M.M. Richardson 46, G. Butler & S. Corbett* (CBG, MEL); Central Coast: Kemps Creek, 33°53′S, 150°47′30″E, 7 Sep. 1982, *R.G. Coveny 11280 & P. Hind* (NSW, CBG); Northern Tablelands: Bakers Creek Falls, c. 20 km E of Armidale, 30°33′S, 151°54′E, 31 Oct. 1984, *M.D. Crisp 7511 & J.M. Taylor* (CBG, MEL, NSW); Northern Tablelands: Gwydir Highway, 52.8 km E of Inverell, 29°44′S, 151°34′30″E, 10 Sep. 1986, *R.G. Coveny 12360 & J. Dalby* (NSW, CBG); Southern Tablelands: 3 km from Bungonia along road to Goulburn, 34°50′S, 149°55′E, 24 Jul. 1988, *M.D. Crisp 8197* (CBG, A, NSW); Southern Tablelands: 1.0 km along road to Captains Flat from the Kings Hwy turn-off, 35°21′S, 149°16′E, 25 Sep. 1986, *M.D. Crisp 7847 & J.D. Briggs* (CBG, JRAU, MEXU, MO); North Western Slopes, 2 km past Copeton Dam on road from Inverell towards Bingara, 3 Sep. 1975, *B. Muffett M5/289* (CBG); Central Western Slopes: Mitchell Hwy, 15.7 km W of Dubbo on route to Nyngan, 32°14′S, 148°23′E, 17 Aug. 1987, *R.G. Coveny 12593, P. Cuneo & B. Weicek* (NSW, CBG).

Victoria — Eastern Highlands: Headwater of Stony Creek on the Mt Margaret Track, 1 km due S from Mt Ronald, 37°37'S, 146°41'40"E, 28 Apr. 1992, *D.E. Albrecht 4964 & N.G. Walsh* (MEL, CBG, NSW, BRI).

Distribution

Queensland: Burnett, Darling Downs, Maranoa, Morton and Wide Bay pastoral districts. New South Wales: Central Coast, South Coast, Northern Tablelands, Central Tablelands, Southern Tablelands, North Western Slopes and Central Western Slopes botanical subdivisions. Victoria: Eastern Highlands natural region. *D. sieberi* is relatively widely distributed in New South Wales, but in Queensland is confined to the south-eastern corner of the state, and in Victoria is restricted to the Macalister River catchment.

Habitat

D. sieberi typically grows in dry *Eucalyptus* or *Callitris* forests and woodlands, and often occurs on sites with exposed surface rock or skeletal substrates. However, it also grows in more mesic sites such as moist sclerophyll forests, as is the case in some Victorian populations.

Discussion

Steudel (1840) considered that de Candolle (1825) had misapplied the name *Dillwynia cinerascens* R. Br. to what was in fact an unnamed taxon. Therefore he provided the new name *Dillwynia sieberi*, based upon Sieber's description. De Candolle cited only a single specimen, namely *Sieber 411*, which is extant in de Candolle's herbarium in Geneva, and it is chosen here as the lectotype. It should be noted that *Dillwynia juniperina* Sieber *ex* DC., which was based upon this same specimen, is an invalid nomenclatural synonym of *Dillwynia cinerascens* R. Br., because de Candolle (Nov. 1825) cited it under that name.

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